

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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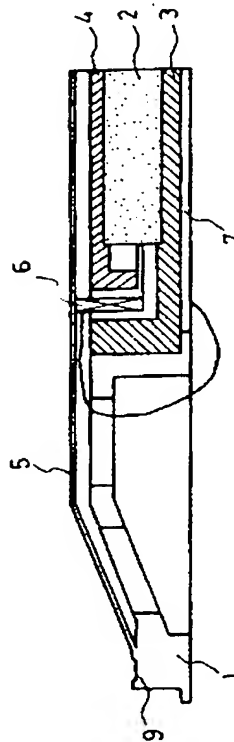
APPLICATION DATE : 28-06-80  
APPLICATION NUMBER : 55088369

APPLICANT : CITIZEN WATCH CO LTD;

INVENTOR : NOMURA HIRONORI;

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TITLE : STRUCTURE OF SPEAKER



ABSTRACT : PURPOSE: To stabilize a frequency and to improve water resisting property by melt-sticking the outer circumference of a diaphragm to a frame with ultrasonic waves.

CONSTITUTION: In a frame 1, an upper yoke 3 and a lower yoke 4 having a press-bonded magnet 2 is built. To a diaphragm 5, a voice coil 6 in an annular gap between yokes 3 and 4 is adhered and its terminal is connected to a terminal electrode sheet 7 adhered to the yoke 3. The frame 1 and diaphragm 5 are melt-stuck together at their circumferences with ultrasonic waves. In the ultrasonic-wave melt sticking treatment, the contact surfaces of the diaphragm 5 and frame 1 are fused by the frictional heat of ultrasonic vibrations to be bonded, so binding force is extremely great. Consequently, frequency characteristics are stable, and the enough water resisting property is obtained.

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